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(12) **United States Patent**
Nagy et al.(10) **Patent No.: US 6,299,897 B1**
(45) **Date of Patent: Oct. 9, 2001**(54) **INHIBITION OF SELECTIN BINDING**(75) Inventors: **Jon O. Nagy**, Rodeo; **Wayne R. Spevak**, Albany, both of CA (US);
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(51) **Int. Cl.⁷** **A61K 9/70**; A61K 31/715(52) **U.S. Cl.** **424/443**; 424/450; 514/23;
514/25; 514/53; 514/54; 514/61; 514/62;
536/1.11; 536/4.1; 536/17.2; 536/18.7;
536/53; 536/55; 536/55.1; 536/55.2(58) **Field of Search** 514/23, 25, 53,
514/54, 61, 62; 424/450, 443; 536/1.11,
4.1, 17.2, 18.7, 53, 55, 55.1, 55.2(56) **References Cited****U.S. PATENT DOCUMENTS**

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Primary Examiner—Kathleen Kahler Fonda(74) *Attorney, Agent, or Firm*—David J. Aston; John W. Mahoney(57) **ABSTRACT**

This invention provides compositions for inhibiting the binding between two cells, one expressing P- or L-selectin on the surface and the other expressing the corresponding ligand. A covalently crosslinked lipid composition is prepared having saccharides and acidic group on separate lipids. The composition is then interposed between the cells so as to inhibit binding. Inhibition can be achieved at an effective oligosaccharide concentration as low as 10⁶ fold below that of the free saccharide. Since selectins are involved in recruiting cells to sites of injury, these composition can be used to palliate certain inflammatory and immunological conditions.

12 Claims, 8 Drawing Sheets